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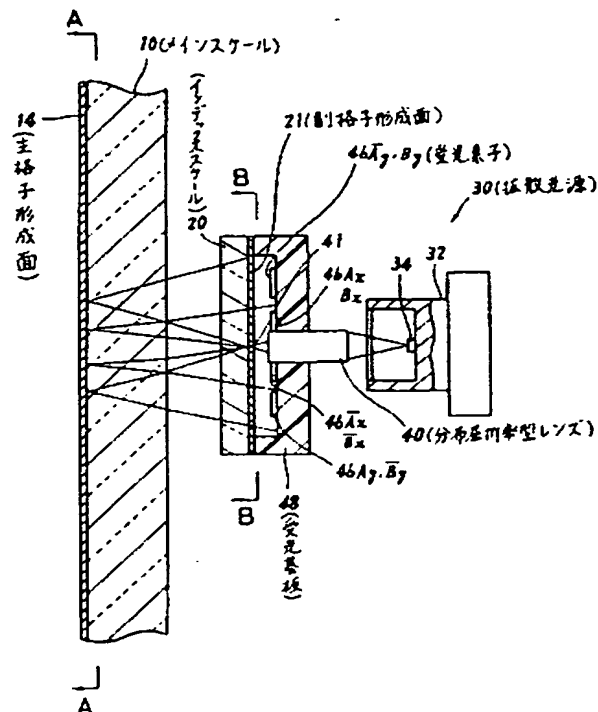
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TITLE : REFLECTION TYPE XY ENCODER



ABSTRACT : PURPOSE: To detect the X- and Y-directional components of relative displacement between two members directly by a single encoder by using a reflection type main scale where a main grating is formed and a transmission type index scale where a subordinate grating is formed.

CONSTITUTION: The reflection type XY encoder is constituted by using the reflection type main scale 10 which is fitted to one of members moving relatively in two dimensional directions and has a main grating formation surface 14 periodically in the two dimensional directions and the transmission type index scale 20 which is fitted to the other member and has a subordinate grating formation surface 21 corresponding to the periodic main grating in two dimensional directions. Then at least two periodic detection signals are generated by the intervention of the main scale 10 and index scale 20 corresponding to the two-dimensional relative displacement between both members. Further, the main grating is formed in the pattern of two-dimensionally arranged islands and the subordinate grating is formed in the pattern of stripes which are arranged at the same pitch with the main grating and independently in the X and Y directions.

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